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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/568,435

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Michel Suquet

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09/18/2006

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EXAMINER

VAZQUEZ, ARLEEN M

ART UNIT

PAPER NUMBER

2829

DATE MAILED: 09/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/568,435	Applicant(s) SUQUET, MICHEL	
	Examiner Arleen M. Vazquez	Art Unit 2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-7 and 9-12 is/are rejected.
- 7) ☒ Claim(s) 3 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 February 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

HA TRAN NGUYEN
SUPERVISORY PATENT EXAMINER

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>02/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: there is insufficient information or description on how the intensity of which is adjusted to cancel the magnetic field (H), how the resistance R of the turn of conductive material in short circuit is adjusted to obtain an L/R filtering constant and what comprise the resistance R and the inductance L of the turn of conductive material.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is not clear how the intensity of which is adjusted to cancel the magnetic field (H). Therefore this limitation is considered indefinite.

In claims 3 and 8, it is not clear how the resistance R of the turn of conductive material in short circuit is adjusted to obtain an L/R filtering constant and is not clear what the resistance R and the inductance L of the turn comprises of. Therefore these limitations are considered indefinite.

Claims 2,4-7 and 9-12 variously depend from claims 1, 3 and 8, they are rejected for the same reason.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1,2 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by ***Selcuk (US 5,825,175)***.

As to claim 1, ***Selcuk*** discloses in Figures 1 and 2 a device (10) for measuring the intensity of a strong current (***Selcuk*** inherently will be able to measure a “strong current” because discloses similar components and functionality as claim invention) passing through a wire (electrical conductor extending through axis 15, Col. 2 lines 42-48; Col. 3 lines 13-19), comprising a magnetic sensor (37,38) in the form of a loop (as shown in Figure 2) surrounding the wire (Col. 3 lines 13-19), and a turn (20,21) of conductive material (Col. 2 lines 56-61) surrounding the wire, conducting a high-frequency counter-current (Col. 3 lines 44-48), the intensity of which is adjusted to cancel the magnetic field, characterized in that the turn (20,21) of conductive material is in short circuit (being in a close loop makes the turn to be in short circuit, Col. 3 lines 63-66) and surrounds the magnetic sensor (37,38).

As to claim 2, ***Selcuk*** discloses in Figures 1 and 2 the turn (20,21) of conductive material in short circuit (Col. 3 lines 63-66) is a closed turn.

As to claim 6, **Selcuk** discloses in Figures 1 and 2 the turn (20,21) includes, internally a channel (35,36; Col. 2 lines 61-65) concentric with the torus of the turn, containing the magnetic sensor (37,38).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Selcuk (US 5,825,175)**.

As to claims 3 and 8, **Selcuk** discloses in Figures 1 and 2 the resistance R (inherently every material with electrical conductivity has a resistance R) of the turn of conductive material in short circuit and L being the inductance (the laminations in turn 20,21 inherently along their bodies have inductance) of the turn.

It would have been obvious for one ordinary skill in the art at the time the invention was made to modify **Selcuk's** teaching by adjusting the resistance of the turn by adding or eliminating laminations from the turn 20,21 in order to obtain an L/R filtering constant.

5. Claims 4 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Selcuk (US 5,825,175)** in view of **R. W. Gilbert (US 2,958,036)**.

As to claims 4 and 9, **Selcuk** discloses everything above except for that the turn is made of soft iron. However, **R. W. Gilbert** discloses in Figure 4 the turn (26) is made of soft iron (Coil. 4 lines 26-29).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify **Selcuk's** teaching by having a turn made of soft iron as taught by **R. W. Gilbert** in order to allow a good excitation of the flux of the strong current passing through the turn since iron is a good electrical conductor.

As to claim 10, **Selcuk** discloses in Figures 1 and 2 the turn (20,21) includes, internally a channel (35,36; Col. 2 lines 61-65) concentric with the torus of the turn, containing the magnetic sensor (37,38).

As to claim 11, **Selcuk** discloses in Figures 1 and 2 the turn (20,21) includes, internally a channel (35,36; Col. 2 lines 61-65) concentric with the torus of the turn, containing the magnetic sensor (37,38).

6. Claims 5 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Selcuk (US 5,825,175)** in view of **R. W. Gilbert (US 2,958,036)** in further view of **R. A. Warner (US 2,175,046)**.

As to claim 5, the combined teachings of **Selcuk** and **R. W. Gilbert** discloses everything above but fails to disclose that the turn of soft iron is surrounded externally by a copper jacket. However, **R. A. Warner** discloses in Figure 2 an external copper jacket (14).

It would have been obvious for one ordinary skill in the art at the time the invention was made to modify the combined teachings of **Selcuk** and **R. W. Gilbert** by having an external copper jacket as taught by **R. A. Warner** in order to protect the interior of the turn because of the characteristic of copper used as damper material.

As to claim 12, **Selcuk** discloses in Figures 1 and 2 the turn (20,21) includes, internally a channel (35,36; Col. 2 lines 61-65) concentric with the torus of the turn, containing the magnetic sensor (37,38).

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Selcuk (US 5,825,175)** in view of **Kawaguchi et al. (US 5,103,164)**.

As to claim 7, **Selcuk** discloses everything except for the magnetic sensor being a wire of nickel-iron alloy forming a closed loop and surrounded around its entire circumference by a coil that is formed by helical turns. However, **Kawaguchi et al.** discloses in Figure 4 that the magnetic sensor (formed by the wire and coils 3a, 3b) is a wire of nickel-iron alloy forming a closed loop (as shown in the figure) and surrounded around its entire circumference by a coil (3a, 3b) that is formed by helical turns.

It would have been obvious for one ordinary skill in the art at the time the invention was made to modify **Selcuk's** teaching by having a magnetic sensor formed by wire and coil as taught by **Kawaguchi et al.** in order to assure the good electrical conductivity and the good flux of current to allow the sensor to detect the correct current.

Art Unit: 2829

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Libove et al. (US 5,473,244) discloses an "Apparatus for measuring voltages and currents using non-contacting sensors".

Berkcan (US 6,184,672) discloses a "Current sensor assembly with electrostatic shield".

Beihoff et al. (US 5,206,596) discloses a "ARC detector transducer using an E and B field sensor".

Conclusion


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arleen M. Vazquez whose telephone number is 571-272-2619. The examiner can normally be reached on Monday to Friday, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ha Nguyen can be reached on 571-272-1678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2829

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AMV



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SUPERVISORY PATENT EXAMINER